

15 April 1985

Medical Service

PREGNANCY OF AIR NATIONAL GUARD PERSONNEL

This regulation explains the procedures to be followed for pregnant ANG members. It is to be used with AFR 168-6, AFR 168-10, ANGR 168-10, AFR 160-12 and AFR 160-43 in determining entitlement to medical benefits and qualification for worldwide duty.

1. Policy: Female Air National Guard personnel are qualified for and work in a variety of AFSCs. When pregnancy occurs, precautions should be taken to minimize risk factors that might adversely affect an otherwise normal pregnancy. Exposure to toxic chemicals or gases and ionizing radiation should be avoided. Routine immunizations should be discontinued for pregnant and lactating females. Situations which may induce hypoxia should also be avoided.

2. Medical Evaluation: Since most pregnancies are uncomplicated, ordinary physical activity requires little or no limitation prior to onset of labor. A limited number of Air Force jobs such as climbing poles or ladders, crawling through aircraft passageways or walking on aircraft wings during maintenance procedures involve activities requiring strength and agility beyond the capabilities of a pregnant member to accomplish. In such cases, it is extremely important that changes in the physical profile "X" and physical work capacity be properly evaluated and recorded. Unless medically indicated, complete excusal from training is seldom necessary until the last 6 weeks of gestation. Medical officers should use professional judgment in excusing pregnant members from duty if risk factors are evident in the member's job assignment.

3. Job Limitations: Each pregnancy must be verified by an ANG medical officer. A

written confirmation from the member's private physician will be requested. For AGR personnel, verification from the servicing active duty medical treatment facility is sufficient. A unit medical officer will notify the individual's commander or supervisor of the patient's pregnancy. The unit flight surgeon will be notified in the case of flying personnel. The physician will request a written statement from the individual's commander or supervisor describing the working environment and physical activity required of the member in performing her job. Pregnant members working with ionizing radiation will be briefed and furnished a copy of attachment 1, Occupational Radiation Exposure of Fertile Women.

4. Physical Profile: AF Form 422, Physical Profile Serial Report, will be prepared following pregnancy verification and work environment evaluation. The estimated date of delivery and medical recommendations concerning physical activity limitations or other constraints should be annotated in the remarks section. In accordance with AFR 160-12, paragraph 18, the physical profile should be changed to P4T and the "X" physical work capacity should be changed as appropriate. Expiration date of the 4T profile should be 6 weeks after date of delivery. The original AF Form 422 will be placed in the member's medical record and copies forwarded to the member's commander and the servicing CBPO.

Supersedes ANGR 160-02, 15 Nov 76. (For summary of changes, see signature page.)

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5. **Excusal from Training:** Medical excusal from training may be requested at any time during gestation. This excusal from UTA and annual training is at the discretion of a medical officer. However, it is mandatory that pregnant members be excused from active duty training at least 6 weeks prior to the anticipated date of delivery.

6. **Service School Attendance:** Attendance at service schools is permitted when required physical activity can be tolerated by the pregnant member and meets the criteria of paragraph 3.

7. **Medical Care During Pregnancy:** Except for emergencies, medical care for a pregnant member is authorized at Government expense only while the member is on a tour of active duty (title 10 U.S. Code) or full-time duty (title 32, U.S. Code) for a period that exceeds 30 days. Individuals on tours of active duty (title 10 U.S. Code) or full-time duty (title 32, U.S. Code) are entitled to medical care during the tour under AFR 168-6. Pregnant ANG members, upon

completion of their active duty tour, have no statutory entitlement to medical care as a result of becoming gravid during the tour, regardless of the length of the tour. Although there is no statutory authority, the Secretary of the Air Force under his broad powers has authorized care as per paragraph 14a, AFR 168-6 under certain circumstances. That paragraph says: "A female member who is found to be pregnant on her final examination for separation from the uniformed service, or who is discharged or relieved from extended active duty under honorable conditions because of pregnancy, is eligible for maternity care in connection with that pregnancy in a military medical facility. (Care in a civilian medical facility is not authorized at Government expense)." Thus the Secretary has created a regulatory entitlement for maternity care for Air Guardswomen only if they are discharged or relieved from extended active duty under honorable conditions because of pregnancy. A further stipulation imposed is that the care is subject to available space in the active duty facility.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

EMMETT H. WALKER, Jr., Lieutenant General, USA
Chief, National Guard Bureau

OFFICIAL

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Executive, National Guard Bureau

SUMMARY OF CHANGES. Deletes statement concerning prohibition of active duty for pregnant females; defines authority for medical care during and following active duty tours; and addresses procedures for job limitation for pregnant members.

POSSIBLE HEALTH RISKS TO CHILDREN OF WOMEN* WHO ARE EXPOSED TO RADIATION DURING PREGNANCY

Some recent studies have shown that the risk of leukemia and other cancers in children increases if the mother is exposed to a significant amount of radiation during pregnancy. According to a report by the National Academy of Sciences, the incidence of leukemia among children under 10 years of age in the United States could rise from 3.7 cases in 10,000 children to 5.6 cases in 10,000 children if the children were exposed to 1 rem of radiation before birth (a "rem" is a measure of radiation). The Academy has also estimated that an equal number of other types of cancers could result from this level of radiation. Although other scientific studies have shown a much smaller effect from radiation, the Air Force wants women employees to be aware of any possible risk so that the women can take steps they think appropriate to protect their offspring.

As a radiation worker, you may be exposed to more radiation than the general public. However, the Air Force has established a basic exposure limit for all occupationally exposed adults of 3.0 rems in any 1 calendar quarter and 5.0 rems in any 1 year. If you are working for a Nuclear Regulatory Commission licensee, your exposure limit is 1.25 rems per calendar quarter and 5.0 rems per year. No clinical evidence of harm would be expected in an adult working within these levels for a lifetime. Because the risks of undesirable effects may be greater for young people, persons under 18 years of age are permitted to be exposed to only 10 percent of the adult occupational limits. (This lower limit is also applied to members of the general public.)

The scientific organization called the National Council on Radiation Protection and Measurements has recommended that because unborn babies may be more sensitive to radiation than adults, their radiation dose as a result of occupational exposure of the mother should not exceed 0.5 rem. Other scientific groups, including the International Commission on Radiation Protection, have also stressed the need to keep radiation doses to unborn children as low as practicable.

All Air Force supervisors and Nuclear Regulatory Commission licensees are now required, by Title 10, Part 19 of the Code of Federal Regulations, to inform all individuals who work in a restricted area of the health protection problems associated with radiation exposure. This instruction would in many cases include information on the possible risks to unborn babies. The regulations also state, in Title 10, Part 20, that licensees should keep radiation exposure as low as practicable. According to the National Council on Radiation Protection and Measurements, particular efforts should be made to keep the radiation exposure of an embryo or fetus at the very lowest practicable level during the entire period of pregnancy. It is, therefore, Air Force policy to remove all pregnant women from duties involving occupational exposure to radiation.

If you are now pregnant or you do become pregnant, you should ask your employer to reassign you to areas involving no occupational exposure to radiation. Do so without delay. The unborn child is most sensitive to radiation during the first three months of your pregnancy. You might wish to delay having children until you are no longer working with radiation.

The following facts should be noted:

1. The first 3 months of pregnancy are the most important so you should act quickly when you suspect pregnancy.
2. At the present occupational exposure limit, the actual risk to the unborn baby is small, but experts disagree on the exact amount of risk.
3. There is no need to be concerned about sterility or loss of your ability to bear children. The radiation dose required to produce such effects is more than 100 times larger than the Nuclear Regulatory Commission's dose limits for adults.
4. Even if you work in an area where you receive only 0.5 rem per 3-month period, in 9 months you could receive 1.5 rems, which exceed the full-term limit suggested by the NCRP. Therefore, be aware that the 0.5 rem limit applies to the full 9-month pregnancy.

* This information sheet is modified from the U.S. Nuclear Regulatory Commission Guide 8.13. Modification is necessary because Air Force Policy is more restrictive than the Nuclear Regulatory Commission policy.

The remainder of this document contains a brief explanation of radiation and its effects on humans. As you will see, some radiation is present everywhere and the levels of radiation most employees of Nuclear Regulatory Commission licensees and Air Force radiation workers receive are not much larger than these natural levels. Because the radiation levels in the facility where you will be working are required by law to be kept quite low, there is not considered to be a significant health risk to individual adult employees.

DISCUSSION OF RADIATION

The amount of radiation a person receives is called the "dose" and is measured in "rems." The average person in the United States gets a dose of one rem from natural sources every 12 years. The dose from natural radiation is higher in some states, such as Colorado, Wyoming, and South Dakota, primarily because of cosmic radiation. There the average person gets one rem every 8 years.

Natural background radiation levels are also much higher in certain local areas. A dose of one rem may be received in some areas on the beach at Guarapari, Brazil, in only about 9 days, and some people in Kerala, India, get a dose of one rem every 5 months.

Many people receive additional radiation for medical reasons. The annual radiation dose averaged over the United States population from diagnostic X-rays is 0.072 rem per year. The average dose from one chest X-ray is 0.045 rem.

Radiation can also be received from natural sources as rock or brick structures from consumer products such as television and glow-in-the-dark watches, and from air travel. The possible annual dose from working 8 hours a day near a granite wall at the Redcap Stand in Grand Central Station, New York, is 0.2 rem, and the average annual dose in the United States from TV, consumer products, and air travel is 0.0026 rem.

Radiation, like many things, can be harmful. A large dose to the whole body (such as 600 rems in 1 day) would probably cause death in about 30 days, but such large doses result only from rare accidents. Control of exposure to radiation is based on the assumption that any exposure, no matter how small, involves some risk. The occupational exposure limits are set so low, however, that medical evidence gathered over the past 50 years indicates no clinically observable injuries to individuals due to radiation exposures when the established radiation limits are not exceeded. This was true even for exposures received under the early occupational exposure limits, which were many times higher than the present limits. Thus, the risk to individuals at the occupational exposure levels is considered to be very low. However, it is impossible to say that the risk is zero. To decrease the risk still further, supervisors are expected to keep actual exposures as far below the limit as practicable.

The current exposure limits for people working with radiation have been developed and carefully reviewed by nationally and internationally recognized groups of scientists. It must be remembered, however, that these limits are for adults. Special consideration is appropriate when the person being exposed is, or may be, an expectant mother, because the exposure of an unborn child may also be involved.

PRENATAL IRRADIATION

The prediction that an unborn child would be more sensitive to radiation than an adult is supported by observations for relatively large doses. Large doses delivered before birth alter both physical development and behavior in experimentally exposed animals. A report of the National Academy of Sciences states that short-term doses in the range of 10 to 20 rems cause subtle changes in the nerve cells of unborn and infant rats. The report also states, however, that no radiation-induced changes in development have been demonstrated to result in experimental animals from doses up to about 1 rem per day extended over a large part of the period before birth.

The National Academy of Sciences also noted that doses of 25 to 50 rems to a pregnant human may cause growth disturbances in her offspring. Such doses substantially exceed, of course, the maximum permissible occupational exposure limits.

Concern about prenatal exposure (that is, exposure of a child while in its mother's uterus) at the permissible occupational level is primarily based on the possibility that cancer (especially leukemia) may develop during the first 10 years of the child's life. Several studies have been performed to evaluate this risk. One study involved the followup of 77,000 children exposed to radiation before birth (because of diagnostic abdominal X-rays made for medical purposes during their mother's pregnancy). Another study involved the followup of 20,000 such children. In addition, 1292 children who received prenatal exposure during the bombing of Hiroshima and Nagasaki were studied. Although contradictory results have been obtained, most of the evidence suggests a relationship between prenatal exposure and an increased risk of childhood cancer.

SUMMARY

Occupational exposures to radiation are being kept low. However, qualified scientists have recommended that the radiation dose to a pregnant woman should not exceed 0.5 rem because of possible risks to her unborn child. Since this 0.5 rem is lower than the dose generally permitted to adult workers, women should take special actions to avoid receiving higher exposures, just as they might stop smoking during pregnancy or might climb stairs more carefully to reduce possible risks to their unborn children.

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